

PCTWORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : C01B 37/00, C01G 33/00, 23/053, 25/02, 35/00, C01F 17/00, C01B 13/32	A1	(11) International Publication Number: WO 96/31434 (43) International Publication Date: 10 October 1996 (10.10.96)
(21) International Application Number: PCT/US96/04512 (22) International Filing Date: 2 April 1996 (02.04.96) (30) Priority Data: 08/415,695 3 April 1995 (03.04.95) US (71) Applicant: MASSACHUSETTS INSTITUTE OF TECHNOLOGY [US/US]; 77 Massachusetts Avenue, Cambridge, MA 02139 (US). (72) Inventors: YING, Jackie, Y.; 9 Fairlane Terrace, Winchester, MA 01890 (US). ANTONELLI, David, M.; 216 Upland Road, Cambridge, MA 02138 (US). (74) Agents: BROOK, David, E. et al.; Hamilton, Brook, Smith & Reynolds, Two Militia Drive, Lexington, MA 02173 (US).	(81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>	
(54) Title: COMPOSITION AND METHOD FOR PRODUCING HEXAGONALLY-PACKED MESOPOROUS METAL OXIDE (57) Abstract The present invention relates to a composition and a method for producing hexagonally-packed mesoporous metal oxides wherein the metal oxide is selected from transition metals and lanthanide metals. The composition includes hexagonally packed metal oxide mesostructures that are resistant to pore collapse upon removal of surfactant and are thermally stable. The composition can include a surfactant complexed with the metal. Also described are methods for producing the hexagonally-packed mesoporous metal oxides.		